

TAE Technologies Gains Renewed Admission into DOE INCITE Program to Further Fusion Energy Research

Researchers awarded access to high performance computing resources to accelerate the development of commercial fusion energy.

FOOTHILL RANCH, CA, November 13, 2018 — [TAE Technologies](#), the world's largest and most advanced private fusion company, has been awarded renewed admission into the 2019 Innovative and Novel Computational Impact on Theory and Experiment ([INCITE](#)) program by the U.S. Department of Energy (DOE) Office of Science. The INCITE award grants TAE Technologies 750,000 node-hours on the Argonne National Laboratory's Theta supercomputer to further its ultimate goal of developing clean, safe, commercial fusion energy-powered electricity.

In 2018, the INCITE program granted TAE Technologies 500,000 node-hours on Theta's Cray XC40 massively parallel multiprocessor. The node-hours were awarded for "Kinetic Simulation of Field-Reversed Configuration (FRC) Stability and Transport" – using two proprietary simulation codes to explore new experimental parameter regimes; accelerate the optimization of experimental operating scenarios; and predict the most stable and efficient requirements for future FRC reactor design. That research led to several refereed journal and conference publications, as well as a number of physics model advances and numerical algorithm improvements.

In 2019, the TAE Technologies' research team will continue its efforts to advance the scientific progress of their C-2W/Norman experimental program. A new feature of this year's project is a collaboration between TAE Technologies and the ADIOS team at Oak Ridge National Laboratory, which is part of the CODAR (Co-Design Center for Online Data Analysis and Reduction). This will allow the company to leverage public investment in the Exascale Computing Project as part of TAE Technologies' strategic roadmap to optimize its proprietary codes for use in emerging exascale computing environments. The award renewal also deepens the relationship between TAE Technologies and the DOE. Earlier this year, Secretary Rick Perry toured Norman with other high-level officials.

"Our goal at TAE Technologies is to inform and expedite our experimental research efforts by carrying out larger simulations more quickly, and the INCITE program gives us access to the massive computing resources that we need to do so," said Sean Dettrick, Director of Computational Sciences. "This work is transformational for energy generation, and we are grateful for the continued support for the work we've dedicated ourselves to for 20 years developing a clean, commercially viable, fusion-based electricity generator."

The INCITE program acts as primary point of access to the DOE Leadership Computing Facilities at Argonne and Oak Ridge National Laboratories, which house two powerful supercomputers dedicated to open science. Academic, governmental and industrial researchers submit INCITE project proposals, which are awarded on a competitive basis. Many awardees are in pursuit of significant scientific breakthroughs in critical areas ranging from sustainable energy technologies to next-generation aerospace designs. TAE Technologies' research uses resources of the Argonne Leadership Computing Facility, a DOE Office of Science User Facility supported under Contract DE-AC02-06CH11357.

For more information on TAE Technologies and the benefits of fusion energy, visit tae.com.

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ABOUT TAE TECHNOLOGIES

TAE Technologies is leveraging proprietary science and engineering to tackle the world's biggest challenges. Our core mission is to create a new source of clean energy – one that's powered by nature's own processes and produces no harmful byproducts. It's what we call Friendly Fusion. Our groundbreaking work has resulted in industry-wide advances in accelerator and plasma physics, and acted as a catalyst for adjacent innovations in healthcare, transportation and power management. With 20 years of focused research, TAE Technologies is on a purposeful path to commercial fusion energy and pioneering sustainable solutions for a better tomorrow.